Interested Parties Meeting
CIWMB

July 30, 2004

Dr. Joseph Greene

Agenda

- Quality Assurance Guidelines Update
  - Response to comments on Guidelines Report
  - Status on Evaluation Phase
- Compostables Study Update
  - Project Management

Quality Assurance Guidelines Update

- Response to comments on Guidelines Report
  - Companies participating
    - Rigid Packaging Products
      - APR
      - Envision Plastics
      - Talco Plastics
    - Trash Bags and Film Products
      - PolyAmerica
      - Heritage
      - Clorox
      - Delta
      - Pactiv

Quality Assurance Guidelines Update

- General Comments from Rigid Packaging
  - APR's comments represent concerns at Envision and Talco
    - The guidelines as presented in report are not useful
      - "we believe efforts to orchestrate manufacturing methods and PCR product by quality management will be futile as commercial decisions are based upon additional factors not considered by the CIWMB."
    - Recommends the Board focus on:
      - Eliminating contamination in bales
      - Providing quality management tutorials for new entrants who create bales.
    - The contractor should be recognized for pointing out quality management opportunities for small LDPE reclaimers.
    - The report should be titled,
      - "Post Consumer LDPE Resin Quality Assurance and Testing Protocol: Quality Assurance Guidelines".

Quality Assurance Guidelines Update

- General Comments from Rigid Packaging
  - Talco
    - Continues to invest considerable resources to facilitate and promote the use of HDPE PCR in RPPCs and is reluctant to “re-invent the wheel” under any condition.
  - Envision Plastics believes
    - Rigid packaging is much more customer focused and the proposed grading system is neither efficient nor relevant for customers out there.

Quality Assurance Guidelines Update

- General Comments from Bag and Film Companies
  - PolyAmerica
    - Make changes to wording in pages 5, 6, and 7
    - Add specific ASTM numbers to tests.
    - Add ASTM testing to specs for Dart impact and tear.
  - Heritage
    - "We believe at if the recommendations are adopted and broadly implemented they will serve to improve markedly the quality of PCR available in the State of California."
    - Incorporate ASTM standards for recycled and recovered plastics
    - Need End-use testing verification that PCR meets Grades 1, 2, or 3.

Quality Assurance Guidelines Update

- General Comments from Bag and Film Companies
  - Clorox
    - Need better description of differences in hard and soft gels.
    - Need different gel count numbers and frequencies.
    - Modify several quality control sheets to include heavy metals, TNPP, and material types.
  - Delta Plastics
    - Modify incoming inspection sheet to allow the inspection frequency to be reduced if working with an approved supplier.
    - Modify source type to include other types than stretch wrap.
    - Modify Melt Index spec to include fractional melts.
    - Modify testing spec to not require a dedicated lab extruder if have customer's approval or customer's lab line.

Quality Assurance Guidelines Update

- General Comments from Bag and Film Companies
  - Pactiv
    - Modify wording for contamination, discoloration, materials produced at companies that participated in survey, PCR not being used with food grade containers, flexible guidelines for manufacturers, headings, ISO certification benefits, environmental impact of wash line, etc.
    - Quality assurance processes focus on requiring the same definitions and quality elements by companies participating in PCR programs.
    - Raw materials used, process parameters, and final product specifications be left to the discretion and development of the producer company.
    - Future tests should include density and costs of implementing quality system

Quality Assurance Guidelines Update

- Actions based upon comments.
  - Incorporate the majority of changes presented by the bag and film manufacturers, except
    - Verify end-use PCR meets Grade levels 1, 2, or 3.
    - Production of bags from PCR materials (though material will be available for companies to use)
    - Cost of implementing quality system
  - Incorporate recommendations from RPPC companies that includes bale specifications to inspection sheet.
  - Recommend RPPC companies reconsider guidelines:
    - Grade 5 is the current standards that does not require testing or documentation.
    - Grade 4 requires testing for environmental stress cracking resistance.

Quality Assurance Guidelines Update

- Status on Evaluation Phase
  - Phase 4: Evaluation of Guidelines at CSU, Chico
    - Materials: LLDPE (Pactiv), LLDPE (Delta), LDPE (Bay Polymer), HDPE (Bay Polymer), and PP (Bay Polymer)
    - Testing completed: Melt Index, Moisture, DSC
    - Testing in-progress: Density, FTIR, environmental stress crack resistance, extruded test strip. (Completion date: August 23, 2004)
    - Documentation in-progress: Inspection sheets for process control and PCR product. (Completion date: August 23, 2004)

Quality Assurance Guidelines Update

- Status on Evaluation Phase
  - Phase 5: Evaluation of Guidelines at PCR Processors
    - PPP Plastics company in Vernon, CA: PCR processors for LDPE, HDPE PCR. August 10, 2004.
      - Dr. Greene will personally conduct evaluation at PPP company and test samples at CSU, Chico before and after implementing system.
      - Dr. Greene will request one and two month follow-up samples to be tested at CSU, Chico. Tests include melt index, density, contamination, and pellet count.
    - Joe's Plastics company in Vernon, CA: PCR processors for LDPE, HDPE PCR. August 11, 2004.
      - Dr. Greene will meet with quality supervisor and discuss guidelines for implementation. The company will send samples to CSU, Chico before and after implementing system for testing.
      - Dr. Greene will request one and two month follow-up samples to be tested at CSU, Chico. Tests include melt index, density, contamination, and pellet count.

Quality Assurance Guidelines Update

- Status on Evaluation Phase
  - Phase 5: Evaluation of Guidelines at PCR Processors
    - Delta Plastics company in in Little Rock, AK: PCR processors for LLDPE PCR. August 18, 2004.
      - Dr. Greene will personally conduct evaluation at company and send samples to test CSU, Chico before and after implementing system.
      - Dr. Greene will request one and two month follow-up samples to be tested at CSU, Chico. Tests include melt index, density, contamination, and pellet count.
  - Phase 6: Documentation of PCR Project. Estimated completion date is December 10, 2004.

Compostables Study Update

- Project Management
- Steps (Start date: August 23, 2004)

	Completion Date
1. Work Plan and Budget	October 1, 2004
2. Literature Search	December 15, 2004
3. Demonstration Project	December 1, 2005
4. Evaluation Report	June 1, 2006

Compostables Study Update

- Steps
  - Work Plan and Budget
    - The work plan details the project steps and timeline.
    - The budget details the anticipated expenditures in work plan.
  - Literature Review of Compostable products and Degradable technologies
    - Identifying the various compostable RPPCs,
      - Food service products and bags performance during degradation.
        - » Product cost information, degradation times, residuals, and toxicity.

Compostables Study Update

- Steps
  - Demonstration Project
    - At CSU, Chico using various compostable RPPCs, food service products and bags that meet ASTM 6400-99 standard specifications.
    - Provide products for Food services department.
    - Collect containers.
    - Burry in compost soil at university farm.
    - Test for degradation consistent with ASTM 6400-99 methods and other appropriate scientific testing and methods including the use of a control to measure results against.
      - Identification of residuals, toxicity (including heavy metals), etc.
      - Designed-use performance (if applicable)
  - Evaluation Report